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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,064	03/16/2004	Ho-Ouk Lee	8750-064	5182

7590 03/23/2005
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EXAMINER

QUACH, TUAN N

ART UNIT PAPER NUMBER

2826

DATE MAILED: 03/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/803,064	LEE ET AL.	
	Examiner	Art Unit	
	Tuan Quach	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10 and 13-16 is/are rejected.
- 7) ☒ Claim(s) 11, 12 and 17-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/16/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 10-20 are elected without traverse. Claims 1-9 are withdrawn from consideration.

The IDS filed March 16, 2004 citing US Pat. 6,426,627 issued to July 30, 2002, inventor named Kikukawa et al. is not considered because it contains an error: the patent of said number is not issued under that date or to that named inventors and further does not relate to the instant application. Applicant is required to correct and clarify this information on the IDS.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 10, 15 rejected under 35 U.S.C. 102(b) as being anticipated by Ha (6,451,708).

Ha teaches all the claimed process steps of claim 10, including a method of preparing a semiconductor device having a cell array region and a peripheral circuit region, sequentially forming a gate insulating layer 106 and a gate conductive layer 108 on the semiconductor substrate 100, forming a word line capping layer 110 and a gate capping layer on the gate conductive layer, patterning the word line capping layer, the gate capping layer, and the gate conductive layer to form a plurality of word line patterns in the cell array region and at least one gate pattern in the peripheral region, the word line pattern including a word line and a word line capping pattern, the gate pattern including a gate electrode and a gate capping layer pattern, forming gate spacers 112 on the side walls of the word line pattern and the gate pattern, sequentially forming a pad interlayer insulating layer 118 and a bit line interlayer insulating layer 120 over a surface of the semiconductor substrate having the gate spacers; and patterning the bit line interlayer insulating layer, the pad interlayer insulating layer, and the gate capping layer pattern to form a cell contact hole 126 penetrating a region between the

Art Unit: 2826

word line patterns and a peripheral circuit contact hole 124 exposing the gate electrode.

See Figs. 2A-2F, column 45 line 66 to column 7 line 18.

Applicant cannot rely upon the foreign priority papers to overcome this rejection (in addition with the requirement delineated *infra*) because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15. Note that a translation would afford the priority of March 17, 2003 and the above rejection would be applicable under 35 U.S.C. 102(e) and the following would be applicable.

Claims 10, 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Ha *supra* for the same reasons delineated above.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claims 13, 14, 16 are rejected under 35 U.S.C. 103(a) as being obvious over Ha *supra*.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in

Art Unit: 2826

the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Regarding claim 13, the etching the capping layers and of the conductive layer using the capping layer pattern as mask is taught also, column 5 lines 20 seq.; although the simultaneous language is not explicitly recited such would have been obvious and/or encompassed therein as the conductive layers are patterned to form the stacks in question and wherein simultaneous patterning or separately patterning correspond to two obvious expedients to form the patterns as in claims 13 and 14. Regarding claim 16, the intended use of self-align does not require any additional structure or processing and would have been obvious or inherent or encompassed in the processing as previously delineated and therefore unpatentable thereover; alternatively, it would have

Art Unit: 2826

been obvious where alignment is not employed or required or unnecessary with existing structures or components.

Claims 11, 12, 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not appear to teach or suggest the necessary combination to arrive at all the limitations in these claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Huang, Lee, Sukekawa, Hu et al., Lee et al., Park et al., and Carter are cited.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Quach whose telephone number is (571) 272-1717. The examiner can normally be reached on M - F from 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Nathan Flynn can be reached on (571) 272-1915. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1562.



Tuan Quach
Primary Examiner